

NOTES AND NEWS

NOMENCLATRURAL CHANGES IN *Persicaria*, *Polygonum*, AND *Rumex* (POLYGONACEAE).—For a revision of W. L. Jepson's Manual (Jepson, Man. fl. pls. Calif. 1925) to be published in 1993, nomenclatural changes are required to reflect new knowledge in the taxonomy of California plants and to make generic treatments internally consistent. This first installment provides nomenclatural changes in Polygonoideae.

Polygonum s.l. comprises several lineages that are morphologically coherent and distinct from one another. In North America these lineages usually have been considered subgenera or sections, but there is a growing tendency worldwide to assign them generic rank. The most intensive work on generic concepts in Polygonoideae is that of Haraldson (Symb. Bot. Upsal. 22(2):1-93. 1978). She concluded from morphology and from anatomical study of pollen, trichomes, stems, and leaves that generic recognition is warranted for most groups. Her treatment will be followed in the new Jepson's Manual; *Aconogonum*, *Bistorta*, *Fallopia*, *Persicaria*, *Polygonum s.s.*, and *Reynoutria* will be recognized.

Persicaria. Recognition of *Persicaria* is predicated upon acceptance of a recommendation by the Committee on Spermatophyta to conserve *Polygonum* L. with *P. aviculare* L. as type (see McNeill, Taxon 30:330-341. 1981). That recognition requires one nomenclatural change in the *P. amphibia* complex to conform with the results of Mitchell (Univ. Calif. Publ. Bot. 45:1-65. 1968)

***Persicaria amphibia* (L.) Gray var. *emersa* (Michaux) Hickman, comb. nov.**—*Polygonum amphibium* L. var. *emersum* Michaux, Fl. Bor. Amer. 1:240. 1803.—TYPE: "Ad ripas fluminis Ohio."

Polygonum coccineum Muhlenb. in Willd., Enum. Pl. Hort. Berol. 1:428. 1809.—TYPE: "Pennsylvania."

Polygonum. Most or all California members of the widespread *Polygonum* subgenus *Polygonum* are introduced weeds. The native, western North American taxa make up a parallel subgenus (combined below).

***Polygonum* L. subgenus *Duravia* (S. Watson) Hickman, stat. et comb. nov.**—*Polygonum* L. sect. *Duravia* S. Watson, Amer. Naturalist 7:665. 1873.—*Duravia* E. Greene, Leaf. Bot. Observ. Crit. 1:22-23. 1904.—TYPE: *Polygonum californicum* Meissner.

Subgenus *Duravia* comprises two sections: sect. *Duravia* of about five species, which is centered in northern California; and a new section (diagnosed below), which ranges broadly in western North America. Section *Duravia* is characterized by leaves that are not obviously jointed to stipule sheaths (but nevertheless fall from them) and are three-nerved, aculeate, linear, and more or less recurved. In addition, the three styles are separate, hardened, and persistent at least at the base. Members of sect. *Duravia* occupy mostly summer-dry lowland and foothill habitats.

***Polygonum* L. sect. *Monticola* Hickman, sect. nov.**—TYPE: *Polygonum douglasii* E. Greene.

A sectione *Duravia* foliis manifeste articulatis ad stipulas, uninerviibus, saltem infimis plerumque lanceolatis vel rotundatis, non aculeatis, stylis basi connatis nec induratis nec persistentibus differt.

Differing from sect. *Duravia* in its leaves, which are obviously jointed to the stipules, one-nerved, not aculeate, at least the lowest usually lanceolate to round; and its styles, which are fused at the base and neither hardened nor persistent. Members of sect. *Monticola* occupy mostly montane (but some foothill) habitats.

The two major lineages of sect. *Monticola* (close relatives of *P. douglasii* E. Greene and of *P. polygaloides* Meissner) usually have been considered to comprise a handful of intergrading species each, but intermediates sometimes outnumber typical forms in both lineages; intergradation patterns among the extremes are highly complex. Names for the extreme forms are here combined at subspecific rank. This rank is chosen to allow continued use of well-established epithets that must be rejected at varietal rank.

Polygonum douglasii E. Greene, Bull. Calif. Acad. Sci. 1:125. 1885.—TYPE: No type was designated (protologue mentions Douglas as “perhaps its very earliest collector,” but it cannot be assumed that Greene saw any Douglas material of this very common taxon); ND-G has no specimens predating publication; no Douglas specimen has been found in other herbaria; no specimen in CAS or UC shows evidence of having been used in preparation of protologue. Neotype here designated: CA, Tulare Co., Coyote Creek, 30 Jul 1904, *Culbertson 4391*, determined by Greene, distributed by C. F. Baker (Neoholotype: DS 73676!; neoisotypes should be broadly distributed).

Polygonum douglasii* E. Greene subsp. *austiniae (E. Greene) Hickman, stat. et comb. nov.—*Polygonum austiniae* E. Greene, Bull. Calif. Acad. Sci. 1:212. 1886.—*Polygonum douglasii* var. *austiniae* M. E. Jones, Contr. West. Bot. 12:75. 1908.—TYPE: “Mrs. R. M. Austin, 1884–5.” ND-G has one gathering from each year. Both are from Goose Lake Valley, Modoc Co., CA. That from 1884 is labelled in Mrs. Austin’s (?) hand, that from 1885 in Greene’s. The latter (ND-G 14416!) is here considered holotype.

Polygonum douglasii* E. Greene subsp. *johnstonii (Munz) Hickman, stat. et comb. nov.—*Polygonum douglasii* E. Greene var. *johnstonii* Munz, Man. So. Calif. Bot. 131, 597. 1935.—TYPE: CA, San Bernardino Co., San Bernardino Mts., Fish Creek, 7600 feet, *Munz and Johnston 8506* (POM!). The type shows several features of subsp. *douglasii* but is closer to the extreme of subsp. *johnstonii* so the latter epithet can be retained at subspecific rank.

Polygonum sawatchense Small, Bull. Torrey Bot. Club 20:213. 1893.—TYPE: “. . . collected by Brandegee on the Sawatch Range, Colorado. The specimens are in the Herbarium of the California Academy of Sciences.” The types are no longer at CAS and presumably were destroyed in the earthquake and fire in 1906. Other material from the Sawatch Range is intermediate to subsp. *douglasii*; no neotype is proposed.

Polygonum triandrum Coolidge, Madroño 20:266. 1970.—TYPE: ID, Blaine Co., Hyndman Peak trail, *Baker 11005* (Holotype: ID!). Plants assigned here to subsp. *johnstonii* are highly variable but show little geographic pattern and no traits that would allow segregation of reasonably well-marked taxa. All of the variant forms intergrade completely with subsp. *douglasii*.

Polygonum douglasii* E. Greene subsp. *majus (Meissner) Hickman, stat. et comb. nov.—*Polygonum coarctatum* Douglas ex Hook. f. var. *majus* Meissner in DC., Prodr. 14:101. 1856.—*Polygonum majus* Piper, Fl. Palouse Reg. 63. 1901.—TYPE: “Ad flum. Columbia (Dougl.), in mont. Scopulosis (Geyer, n. 355!).” Lectotype here designated: *Douglas* (Columbia River, in 1830) (G-DC photo!). *Geyer* (K!) is less complete and less mature.

Polygonum douglasii* E. Greene subsp. *nuttallii (Small) Hickman, stat. et comb. nov.—*Polygonum intermedium* Nutt. ex S. Watson, Proc. Amer. Acad. Arts 17:378. 1882; not Ehrh., Beitr. Naturk. v. 178. 1791.—*Polygonum nuttallii* Small, Monogr. Polygonum 132. 1895.—TYPE: “On bluffs of the Columbia River, Oregon; C. G. Pringle, October 1881, and by Nuttall, probably in the same region.” Hitchcock (Vasc. pls. Pac. NW 2:160. 1964) effectively lectotyped the name on *Nuttall*. Because this taxon will not be included in Jepson’s Manual, I char-

acterize it here. Known from northwest Oregon to British Columbia (west of the Cascade Ranges), it is uncommon, morphologically uniform, and differs from subsp. *spergulariiforme* in its broader leaves that are not reduced strongly upward, its smaller flowers and fruits, and its automatically self-pollinating habit.

Polygonum douglasii E. Greene subsp. *spergulariiforme* (Meissner ex Small) Hickman, stat. et comb. nov.—*P. coarctatum* Douglas ex Hook. f., Fl. Bor. Amer. 2:133. 1838; not Willd. ex Sprengel, Syst. Veg. 2:255. 1825.—*Polygonum spergulariiforme* Meissner ex Small, Bull. Torrey Bot. Club 19:366. 1892.—TYPE: “Hab. N. W. America. *Menzies*. *Dr Scouler*. On the sandy banks of the Columbia and its branches, and on the higher branches of the Multnomak. *Douglas*.— β . Prairies at Nusqually Bay, N. W. America. *Tolmie*.” Lectotype here designated: *Menzies* (K!). *Dr Scouler* has not been found. *Menzies*, *Douglas*, and *Tolmie* are mounted together on one unaccessioned sheet (K!); *Douglas* is two plants of *P. confertiflorum* Nutt. ex Piper; *Tolmie* is five plants of subsp. *spergulariiforme* that are smaller and younger than those of *Menzies*.

Polygonum coarctatum Douglas ex Hook. f. var. *minus* Meissner in DC., Prodr. 14: 101. 1856.—TYPE: “In Amer. arctica? (Franklin! in herb. Arnott), Oregon (Spalding.)” [Lectotype here designated: *Franklin* (134/15) GL! *Spalding* has not been found.] *Franklin* and *Tolmie* referred to above represent the same taxon, but the “ β ” of both protologues is assumed to be coincidental. This would be the valid name for this entity at varietal rank in *P. douglasii*. The autonym (var. *coarctatum*) derives from an illegitimate basionym.

Polygonum polygaloides Meissner subsp. *confertiflorum* (Nutt. ex Piper) Hickman, stat. et comb. nov.—*Polygonum confertiflorum* Nutt. ex Piper, Contr. U.S. Natl. Herb. 11:228. 1906.—TYPE: “Columbia Plains. Collected by Nuttall. Type in the Gray Herbarium” (GH!).

Polygonum imbricatum Nutt. ex S. Watson, Amer. Naturalist 7:665. 1873; not Raf., Fl. Telluriana. 1837.—*Polygonum watsonii* Small, Monogr. Polygonum 138. 1895.—*Polygonum imbricatum* Nutt. ex S. Watson var. *watsonii* (Small) Jepson, Man. fl. pls. Calif. 290. 1923, nom. illegit. (based on the same type as the species).—TYPE: no type was designated. Nuttall, “R. Mts—N. Calif” (GH!) is the only available Nuttall specimen that can be assumed to have been seen by Watson. It is considered here to be the holotype. It fits best into subsp. *confertiflorum* but is intermediate in some ways to subsp. *esotericum* and *polygaloides*.

Polygonum polygaloides Meissner subsp. *esotericum* (Wheeler) Hickman, stat. et comb. nov.—*Polygonum esotericum* Wheeler, Rhodora 40:310. 1938.—TYPE: CA, Modoc Co., Devils Garden, seasonally submerged adobe, 25 Aug 1935, *Wheeler 3918* (Holotype: GH!).

Polygonum polygaloides Meissner subsp. *kelloggii* (E. Greene) Hickman, stat. et comb. nov.—*Polygonum kelloggii* E. Greene, Fl. Fran. 134. 1891.—TYPE: only “State survey . . . n. 6005” [Brewer], which has not been located, is mentioned in protologue, apparently without intent to consider it the type, but (CA, Nevada Co.) “Near Donner Lake,” *Kellogg s.n.*, in 1870 (ND-G!) is labelled “type!” in Greene’s hand. It is here considered holotype. Akenes of *Kellogg* are somewhat striate and to that extent intermediate to subsp. *confertiflorum*.

Rumex. Members of the *Rumex salicifolius* complex are highly variable and are differentiated by only one or a few characters that vary within plants (mostly of the completely mature valves). The forms intergrade completely. Few specimens can be taken as “typical” material, and the latest monographer (Rechinger, Field Mus. Nat. Hist., Bot. Ser. 17(1):1–151. 1937) was unable to identify a substantial proportion of the material he saw because it is not completely mature. Names for the extreme forms not yet so combined are reduced here to varietal rank to achieve uniformity of

treatment (without invoking two infraspecific ranks) with the fewest possible name changes.

Rumex salicifolius J. A. Weinm. var. **lacustris** (E. Greene) Hickman, stat. et comb. nov.—*Rumex lacustris* E. Greene, *Erythea* 3:63. 1895.—TYPE: *Baker and Nutting*, in 1894, CA, Lassen Co., Silver Lake.

Rumex salicifolius J. A. Weinm. var. **transitorius** (Rech. f.) Hickman, stat. et comb. nov.—*Rumex transitorius* Rech. f., *Repert. Spec. Nov. Regni Veg.* 40:296. 1936.—TYPE: no type was designated. Lectotype here designated: CA, Humboldt Co., immediate vicinity of Eureka, 20 Jun 1901, *Tracy 1157* (UC!). This specimen was cited among others in protologue and was the source of Rechinger's habit illustration (1937, op. cit.).

Rumex salicifolius J. A. Weinm. var. **triangulivalvis** (Danser) Hickman, stat. et comb. nov.—*Rumex salicifolius* J. A. Weinm. subsp. *triangulivalvis* Danser, *Ned. Kruidk. Arch.* 1925:415. 1926.—*Rumex triangulivalvis* Rech. f., *Repert. Spec. Nov. Regni Veg.* 40:297. 1936.—TYPE: no type was designated; the illustration fixes application of the name.

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HETEROSTYLY IN *Salvia brandegei* (LAMIACEAE).—Epling (*Ann. Missouri Bot. Gard.* 27:259–263, 1940) recognized that *Salvia brandegei* Munz is dimorphic in stamen length. The following report confirms not only stamen dimorphism, but also heterostyly, as defined by Ganders (*New Zealand J. Bot.* 17:607–635, 1979).

Salvia brandegei is one of the rarest and least known *Salvia* species of the sect. *Audibertia* (Neisess, *Evolution, Systematics, and Terpene Relationships of Salvia* Section *Audibertia*, Ph.D. Diss., Univ. California, Riverside, 1983). It is endemic to coastal bluffs and seaward canyons, occurring only on Santa Rosa Island (Santa Barbara Co., California) and a 40 km strip of northwestern Baja California coastline from Punta Santo Tomas south to Punta Cabras.

Specimens of *S. brandegei* were collected at Punta Cabras and grown under uniform garden conditions at the University of California, Riverside. Two distinct floral morphs

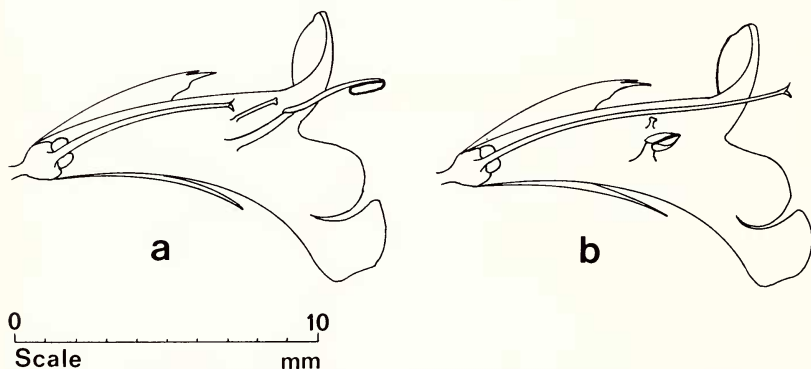


FIG. 1. Bisectioned pin and thrum forms of *Salvia brandegei*, showing differences in style, stamens and sterile staminoids. Scale bar = 1 cm. a. Thrum form; style included, stamen exerted. b. Pin form; style exerted, stamen included.